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11-30-98IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Browning et al.

Serial No. 07/939,834

Filed: September 2, 1992

For Method and Apparatus for Creating
A Wireframe and Polygon Virtual
World

Group Art Unit: 2315

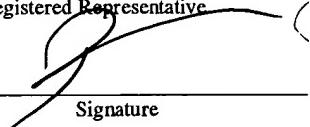
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P3051C

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on the date indicated below:

B. Noel Kivlin
Name of Registered Representative

6-22-98
Date


Signature

POWER OF ATTORNEY BY ASSIGNEE
AND REVOCATION OF PREVIOUS POWERS

Assistant Commissioner
for Patents
Washington, D.C. 20231

Sir:

SUN MICROSYSTEMS, INC., ("assignee"), a Delaware corporation having a place of business at 901 San Antonio Road, Palo Alto, California 94303, certifies that to the best of assignee's knowledge and belief it is the assignee of the entire right, title, and interest in and to the above-referenced patent and represents that the undersigned is a representative authorized and empowered to sign on behalf of the assignee.

Assignee has reviewed the assignment documents that evidence the placement of title in the assignee, true and correct copies of which are attached hereto, and understands and believes that these assignment documents have been submitted for recordation in the U.S. Patent and Trademark Office.

Pursuant to 37 C.F.R. §§1.36 and 3.71, the assignee hereby revokes all powers of attorney previously given and appoints B. Noël Kivlin, Reg. No. 33,929, Jeffrey C. Hood, Reg. No. 35,198, Kevin L. Daffer, Reg. No. 34,146, Eric B. Meyertons, Reg. No. 34,876, Darryl J. Adams,

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Reg. No. 41,424, and Lawrence J. Merkel, Reg. No. 41,191; said attorneys or agents being members of the firm of Conley, Rose & Tayon, P.C.; and Kenneth Olsen, Reg. No. 26,493, Matthew C. Rainey, Reg. No. 32,291, Erwin J. Basinski, Reg. No. 34,773, Timothy J. Crean, Reg. No. 37,116, Philip J. McKay, Reg. No. 38,966, Robert S. Hauser, Reg. No. 37,847 and Patrick J.S. Inouye, Reg. No. 40,297, Joseph T. FitzGerald, Reg. No. 33,881 of Sun Microsystems, Inc., with full power of substitution and revocation, to transact all business in the Patent and Trademark Office in connection with this patent.

Send all future correspondence to:

B. Noël Kivlin
Conley, Rose & Tayon, P.C.
P.O. Box 398
Austin, Texas 78767-0398
(512) 703-1247

Assignee of Interest

Dated: 5/15/98

Sun Microsystems, Inc.
901 San Antonio Road
PAL 01-521
Palo Alto, CA 94303

By: 
Name: Kenneth Olsen
Reg. No.: 26,493
Title: Vice President, Intellectual Property

PATENT ASSIGNMENT AGREEMENT

WHEREAS, VPL Research, Inc., a California corporation (hereinafter "assignor"), the sole and exclusive owner, by assignment, of the United States Patents and Patent Applications listed below and set forth on Schedule 1.1.1 and the inventions described therein and herein.

1. U.S. Patent No. 4,542,291, optical flex sensor, issued September 17, 1985.
2. U.S. Patent No. 4,988,981, computer data entry and manipulation apparatus and method, issued January 28, 1991.
3. U.S. Patent Application No. 08/480,236, computer data entry and manipulation apparatus and method, filed June 7, 1995; continuation of 08/356,123, filed December 15, 1994, abandoned; continuation of 08/130,813, filed October 5, 1993, abandoned; a continuation of 07/863,396, filed March 20, 1992, abandoned; a continuation of 07/546,333, filed June 29, 1990, abandoned; a division of 07/317,107, filed February 28, 1989, now U.S. Patent No. 4,988,981, issued January 28, 1991; a continuation of 07/206,930, filed March 17, 1987, abandoned.
4. U.S. Patent No. 4,937,444, optical flex sensor, issued on June 26, 1990; continuation of 07/218,426, filed July 8, 1988, abandoned; continuation of 06/892,888, also filed July 29, 1986, abandoned; continuation of 06/745,035, filed August 1, 1985, abandoned; divisional of 06/428,322, filed September 29, 1982, abandoned.
5. U.S. Patent No. 5,097,252, motion sensor which produces an asymmetrical signal in response to symmetrical movement, issued March 17, 1992; continuation of 07/029,934, filed March 24, 1987, abandoned.
6. U.S. Patent Application No. 08/335,302, tactile feedback mechanism for a data processing system, filed October 27, 1992; continuation of 07/746,292, filed August 13, 1991, abandoned; continuation of 07/315,252, filed February 21, 1989, abandoned; continuation of 07/029,930, filed March 24, 1987, abandoned.
7. U.S. Patent No. 5,588,139, virtual reality network, issued December 24, 1996; continuation of 07/535,253, filed June 7, 1990, abandoned.
8. U.S. Patent No. 5,521,373, position tracking system, issued May 28, 1996; continuation of 07/854,769, filed March 20, 1992, abandoned; continuation of 07/562,090, filed August 2, 1990, abandoned.
9. U.S. Patent Application No. 08/319,026, low cost virtual reality system, filed October 6, 1993; continuation of 08/163,043, filed October 6, 1993, abandoned; continuation of 07/888,472, filed May 21, 1992, abandoned; continuation of 07/621,127, filed November 30, 1990.

10. U.S. Patent No. 5,546,530, method and apparatus for rendering graphical images issued August 13, 1996; continuation of 08/170,566, filed October 5, 1993, abandoned; continuation of 07/621,450, filed November 30, 1990, abandoned.
11. U.S. Patent Application No. 08/354,018, radio frequency tracking system, filed December 5, 1994; continuation of 08/155,359, filed October 6, 1993, abandoned; continuation of 07/863,312, filed March 20, 1992, abandoned; continuation of 07/621,447, filed November 30, 1990, abandoned.
12. U.S. Patent Application No. 08/165,046, absolute position tracker, filed October 6, 1993; continuation of 07/938,560, filed August 28, 1992, abandoned; continuation of 07/821,276, filed January 10, 1992, abandoned; continuation of 07/620,425, filed November 29, 1990, abandoned.
13. U.S. Patent No. 5,587,936, method and apparatus for creating sounds in a virtual world, issued December 14, 1996; continuation of 07/621,446, filed November 30, 1990, abandoned.
14. U.S. Patent No. 5,559,995, method and apparatus for creating a virtual world, issued September 24, 1996; continuation of 07/621,474, filed November 30, 1990, abandoned.
15. U.S. Patent No. 5,588,104, method and apparatus for creating virtual worlds, issued December 24, 1996; continuation of 07/931,881, filed August 13, 1992, abandoned; continuation of 07/620,490, filed November 30, 1990, abandoned.
16. U.S. Patent Application No. 08/413,940, method and apparatus for creating virtual worlds, filed March 30, 1995; continuation of 08/302,471, filed September 12, 1994, abandoned; continuation of 08/141,205, filed October 1, 1993, abandoned; continuation of 07/620,429, filed November 30, 1990, abandoned.
17. U.S. Patent Application No. 08/648,420, method and apparatus for displaying a virtual world, filed May 25, 1996; continuation of 08/128,112, filed September 29, 1993, abandoned; and
18. U.S. Patent Application No. 08/351,741, virtual image display device, filed December 8, 1994; continuation of 08/141,204, filed October 6, 1993, abandoned; continuation of 07/725,032, filed July 3, 1991, abandoned.

WHEREAS, VPL Newco, Inc., a California corporation (hereinafter "assignee"), whose address is c/o Mark J. Mihanovic, Esq., McDermott, Will & Emery, 2049 Century Park East, Ste. 3400, Los Angeles, California 90067, is desirous of acquiring the right, title and interest in, to and under said Patents and Patent Applications and the inventions covered thereby;

NOW, THEREFORE, in consideration of the payments received under the Asset Purchase Agreement between assignor and assignee dated February 6, 1997, the receipt of which consideration is hereby acknowledged, assignor has sold, assigned, and transferred, and does hereby sell, assign, and transfer the entire right, title and interest in and to the above-mentioned patents, inventions, application for Letters Patent, and any and all applications for Letters Patent in the United States of America and in all foreign countries and in all Patents in the United States of America and all foreign countries which may be granted therefor and thereon, and in and to any and all divisions, continuations, and continuations-in-part of said patents or applications, or reissues or extensions of said Letters Patent or Patents, and all rights under the International Convention for the Protection of Industrial Property, the same to be held and enjoyed by assignee, for its own use and behoof and the use and behoof of its successors, legal representatives and assigns, to the full end of the term or terms for which Letters Patent or Patents, may be granted, as fully and entirely as the same would have been held and enjoyed by the assignor, had this sale and assignment not been made.

AND for the same consideration, assignor hereby covenants and agrees to and with the assignee, its successors, legal representatives and assigns, that, at the time of execution and delivery of these presents, assignor is the sole and lawful owner of the entire right, title and interest in and to the said patents, inventions and the applications for Letters Patent above-mentioned, and that the same are unencumbered and that assignor has good and full right and lawful authority to sell and convey the same in the manner herein set forth.

AND assignor hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all Letters Patent or Patents of the United States on said inventions or resulting from said applications and any continuations, divisionals and reissues thereof to assignee as assignee of the entire interest, and hereby covenants that it has full right to convey the entire interest herein assigned, and that it has not executed, and will not execute, any agreements inconsistent herewith.

Dated: Mar 27, 1997

VPL RESEARCH, INC.

for check
By _____
Title: Trustee in
Bankruptcy

PATENT ASSIGNMENT

THIS AGREEMENT, to be effective as of October 7, 1997, is by and between VPL Newco, Inc. ("Company"), a California corporation, and Sun Microsystems, Inc. ("Sun"), a Delaware corporation having a place of business at 2550 Garcia Avenue, Mountain View, California 94043-1100.

WITNESSETH:

WHEREAS, Company is the owner of the entire right, title, and interest in and to the patents and applications for patent listed in Exhibits A and B attached hereto (the "Patent Rights"); and

WHEREAS, Sun desires to obtain, and Company is willing to assign to Sun, the Patent Rights;

NOW, THEREFORE, for good and valuable consideration, the sufficiency and receipt of which are hereby acknowledged, the parties hereby agree as follows:

Company does hereby sell, assign, transfer, and set over unto Sun the entire right, title, and interest in, to, and under (i) the patents and patent applications listed in Exhibits A and B attached hereto and all other patent patents and patent applications owned by Company which are related thereto, (ii) all patents which may issue from such applications, (iii) the inventions claimed in such patents and applications, and (iv) all claims for damages by reason of past infringement of any such patents or patent applications by third parties with the right to sue for and collect the same.

IN WITNESS WHEREOF, Company has caused its duly authorized
representative to execute this Assignment.

VPL NEWCO, INC.

By: Nicolas BARSALOU

Title: President

Date: October 7, 1997

EXHIBIT A
United States Patents and Patent Applications

1. United States Patent No. 4,542,291, entitled "Optical Flex Sensor"
2. United States Patent No. 4,937,444, entitled "Optical Flex Sensor"
3. United States Patent No. 4,988,981, entitled "Computer Data Entry and Manipulation Apparatus"
4. United States Patent No. 5,097,252, entitled "Motion Sensor Which Produces an Asymmetrical Signal in Response to Symmetrical Movement"
5. United States Patent No. 5,521,373, entitled "Position Tracking System Using a Radiation Director Which Directs Radiation from a Radiation Source onto a Radiation Sensor, Depending on the Position of the Radiation Source"
6. United States Patent No. 5,546,530, entitled "Method and Apparatus for Rendering Graphical Images Using Parallel Processing"
7. United States Patent No. 5,559,995, entitled "Method and Apparatus for Creating a Wireframe and Polygon Virtual World"
8. United States Patent No. 5,587,936, entitled "Method and Apparatus for Creating Sounds in a Virtual World by Simulating Sound in Specific Locations in Space and Generating Sounds as Touch Feedback"
9. United States Patent No. 5,588,104, entitled "Method and Apparatus for Creating a Wireframe and Polygon Virtual World"
10. United States Patent No. 5,588,139, entitled "Virtual Reality Network"
11. United States Patent Application Serial No. 08/123,112, filed 09/29/93, entitled "Method and Apparatus for Displaying a Virtual World"
12. United States Patent Application Serial No. 08/165,046, filed 11/30/90, entitled "Absolute Position Tracker"
13. United States Patent Application Serial No. 08/319,026, filed 11/30/90, entitled "Low Cost Virtual Reality System"

14. United States Patent Application Serial No. 08/335,302, filed 03/24/87, entitled "Tactile Feedback Mechanism for a Data Processing System" [may be abandoned]
15. United States Patent Application Serial No. 08/351,741, filed 07/03/91, entitled "Virtual Image Display Device"
16. United States Patent Application Serial No. 08/354,018, filed 11/30/90, entitled "Radio Frequency Tracing System"
17. United States Patent Application Serial No. 08/413,940, filed 11/30/90, entitled "Improved Method and Apparatus for Creating Virtual Worlds"
18. United States Patent Application Serial No. 08/430,236, filed 03/17/87, entitled "Computer Data Entry and Manipulation Apparatus" [may be abandoned]

EXHIBIT B
Foreign (Non-United States) Patents and Patent Applications

1. European Application No. 88-903612.5, filed 03/23/88, entitled "Motion Sensor Which Produces an Asymmetrical Signal in Response to Symmetrical Movement" (related to United States Patent No. 5,097,252) ✓
2. Canadian Application No. 2,112,682, filed 07/01/92, entitled "Virtual Image Display Device" (related to United States Patent Application Serial No. 08/351,741) ✓
3. European Application No. 92-915131.4, filed 07/01/92, entitled "Virtual Image Display Device" (related to United States Patent Application Serial No. 08/351,741) ✓
4. Japanese Application No. 502320/93, filed 07/01/92, entitled "Virtual Image Display Device" (related to United States Patent Application Serial No. 08/351,741) ✓
5. European Application No. 0 211 984 B2, filed 08/19/85, entitled "Computer Data Entry and Manipulation Apparatus" (granted 09/11/96) (related to United States Patent No. 4,988,981) ✓
6. Japanese Application No. 85-183789, filed 08/20/85, entitled "Computer Data Entry and Manipulation Apparatus" (granted 12/20/96) (related to United States Patent No. 4,988,981) ✓
7. European Application No. 92/902327, filed 12/02/91, entitled "Low Cost Virtual Reality System" (related to United States Application Serial No. 8/319,026) ✓
8. European Application No. 92/902839.6, filed 11/29/91, entitled "Method and Apparatus for Rendering Graphical Images Using Parallel Processing" (related to United States Patent No. 5,546,530) ✓
9. European Application No. 92/902710.0, filed 11/29/91, entitled "Improved Method and Apparatus for Creating Virtual World" (related to United States Patent Application Serial No. 08/413,940) ✓
10. Canadian Application No. 2,172,548, filed 09/29/94, entitled "Method and Apparatus for Displaying a Virtual World" (related to United States Patent Application Serial No. 08/128,112) ✓

11. European Application No. 94/929542.6, filed 09/29/94, entitled "Method and Apparatus for Displaying a Virtual World" (related to United States Patent Application Serial No. 08/128,112) ✓
12. Japanese Application No. 510358/95, filed 09/29/94, entitled "Method and Apparatus for Displaying a Virtual World" (related to United States Patent Application Serial No. 08/128,112) ✓
13. Patent Cooperation Treaty (PCT) Application No. PCT/US91/08944, filed 11/29/91, entitled "Improved Method and Apparatus for Creating Virtual Worlds" ✓
14. Patent Cooperation Treaty (PCT) Application No. PCT/US91/08945, filed 11/29/91, entitled "Method and Apparatus for Rendering Graphical Images" ✓
15. Patent Cooperation Treaty (PCT) Application No. PCT/US92/08946, filed 11/29/91, entitled "Absolute Position Tracker" ✓
16. Patent Cooperation Treaty (PCT) Application No. PCT/US91/08947, filed 11/29/91, entitled "Improved Method and Apparatus for Creating Sounds in a Virtual World" ✓
17. Patent Cooperation Treaty (PCT) Application No. PCT/US91/08949, filed 11/29/91, entitled "System for Creating a Virtual World" ✓
18. Patent Cooperation Treaty (PCT) Application No. PCT/US91/08956, filed 12/02/91, entitled "Low Cost Virtual Reality System" ✓
19. Patent Cooperation Treaty (PCT) Application No. PCT/US92/05572, entitled "Virtual Image Display Device" ✓

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